

Attachment 1

MCDONNELL DOUGLAS

Douglas Aircraft Company

**94FAA-C1-E00-7169
December 12, 1994**

**Mr. Howard Aylesworth
Aerospace Industries Association of America, Inc.
1250 Eye Street, Suite 1200
Washington, DC 20005**

**Subject Minority Opinion on Unapproved Parts Draft Advisory Circular,
dated 10/14/94**

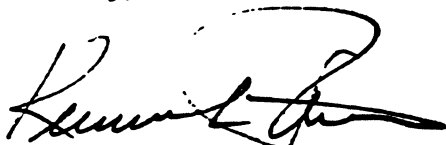
Attached is the subject document that the signatories request you carry forward to the next ARAC Certification Procedures Issue Group along with the subject draft AC.

These are two primary reasons for this Minority Opinion:

- 1. There is still opposition to the draft AC,**
- 2. There is opposition to the whole objective of PAAT Phase 3 not being done concurrently with rulemaking.**

The representatives of the Minority Opinion recommend that this Minority Opinion document not be distributed to the Working Group members prior to submittal to the ARAC Issues Group and that for effectiveness, they present their position at the Issues Group meeting.

Sincerely,



**K. L. Peterson, General Manager
Technical and Government Affairs
Douglas Aircraft Company**

Copy: Allison, Bell, Allied Signal

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December 12, 1994

**The Parts Approval Action Team Phase 3 Working Group
Minority Opinion for the
ARAC Certification Procedures Issues Group**

Introduction

The Parts Approval Action Team Phase 3 Working Group (PAAT 3 WG) was formed by the FAA ARAC Issues Group to specifically address the problem of undocumented parts that were being found in existing inventories in the civil aviation community. The revised tasking, published in the Federal Register of June 8, 1994, is as follows:

"Develop an interim plan for evaluating the acceptability of aircraft parts existing within present civil inventories that lack acceptable documentation. Develop such advisory circulars, notices, NPRM's, or other documents, as deemed appropriate, to accomplish this task. Develop a plan to ensure that in the future aircraft parts are properly documented".

The PAAT 3 WG developed a plan that resulted in an objective to "drain the swamp" (assess and document the undocumented parts in existing inventories) and "build a dam" (prevent the continuation of the existing state of undocumented, hence, unapproved parts from entering into service). The product of the WG was a draft Advisory Circular (AC), dated 10/14/94, that the WG voted to send to the parent Issues Group for acceptance. As part of that activity, there were four manufacturers as members of the WG who had dissenting, minority opinions to the draft AC acceptance and voted not to accept the draft AC. The basis for their non-acceptance was that the draft AC is not enforceable standing alone and does not satisfy the tasking given to the WG by the parent ARAC Issue Group.

Executive Summary

Background

The PAAT 3 WG developed a draft AC which was revised and accepted by the WG on October 14, 1994 (Appendix 1). There were four dissenting minority opinions to the draft AC acceptance. Four manufacturers; Allison, Bell, McDonnell Douglas, and Allied Signal voted not to accept the draft AC. The Minority Opinion strongly believes that the draft AC is not enforceable standing alone and thus does not satisfy the tasking given the WG by the ARAC. The draft AC is not an interim plan and does not define existing inventory, in that it does not place any time constraints on the problem. Further, the current tasking implemented by this draft AC does nothing more than to encourage and perpetuate the problem of unapproved parts. In addition, the recommendations to be forwarded to the FAA do not set forth a plan for ensuring that all future parts will be documented. Since the WG could not reach consensus, the majority position was accepted, and the draft AC is to be forwarded to the ARAC Issues Group as part of the ARAC process.

Conclusions

The following concerns, discussed in further detail in Section 1 of this document, outlines the Minority Opinion's non-acceptance of the draft AC:

1. Existing Inventory. The manufacturers (Allison, Bell Helicopter, McDonnell Douglas, and Allied Signal) have consistently tried to place some kind of a time constraint or "fence" around this process. The manufacturers' position is that the draft AC has no time constraints, and essentially establishes an alternative method to Section 21.303 for approving parts without the regulatory changes required. Even though the Purpose paragraph of the draft AC (Section 1) is that it is not an alternate means of establishing compliance with FAR 21.303, there is no pressure on the producer to obtain PMA's for parts, as they can retroactively be documented and found acceptable through this draft AC, once published. This process will be in place forever and is not enforceable!
2. Inspection and Acceptance. As proposed, the vast majority of parts are accepted based on visual examination or maintenance manual criteria. Visual examination will not detect material substitutions or many significant non-conformances to the type design. Criteria for acceptance of the most important parts, failure of which would be considered catastrophic, is not included in the draft AC.
3. Commercial Parts and Manufacturers' Standard Parts. The way that the draft AC defines "undocumented parts" as stated above, creates an enormous loophole. This loophole not only exempts commercial parts from the review/assessment process, but is exacerbated by the definition of "standard parts" now including as standards those established as such by the manufacturer (i.e. manufacturer's standard parts). This subtle change is far reaching and would thus remove them from FAA oversight. Neither of these changes have a regulatory basis. The PAAT 3 WG, as well as other ARAC WG's have been struggling to arrive at a definition of "commercial parts" for several years. The draft AC proposed to exempt commercial parts from the documentation process, as they should "theoretically" be exempt from Part 21 and not require documentation.

The term "commercial part" has no basis in the FAR's and therefore should not be used in this draft AC for the purposes of exempting entire classes of parts from documentation requirements. It is also the understanding of the WG chair that the FAA would not consider a "carte blanche" definition of commercial parts. The message was that commercial parts would not survive the FAA's review of the draft AC.

The WG drafted a new treatment of commercial parts which basically used the definition from the 9/9/94 draft AC without the commercial parts label. The manufacturers all objected to their and manufacturer's standard parts inclusion in the draft AC due to the lack of regulatory basis and the placement of the commercial parts exclusion in Section 8 of the draft AC prior to the intended use analysis.

4. **Documentation.** As noted, the draft AC provides guidance for making and documenting the determination that previously undocumented parts conform to existing FAA approved design data. The draft excludes those previously determined to be airworthy by an appropriately rated certificate holder thus fostering a "laundry" environment for parts. Even after the minimal examination prescribed by the draft, anyone can create the documentation acceptable for installation with the FAA Form 8130-3 not being required unless that part is offered for sale or transfer. This concern can be expanded on a global basis with parts being manufactured overseas with little or no FAA oversight. Such parts would be inducted into inventories retroactively approved by the provisions of this draft AC.
5. **Military Surplus Parts.** This issue has gained importance with the increase in the Department of Defense's surplus parts auctions. Military surplus parts could become the largest source of undocumented parts in the civil inventory. It is the manufacturers' concern that the AC would provide a means to document and make acceptable a significant number of surplus parts. The Minority Opinion recommends that these parts be expressly excluded from the coverage of the AC.
6. **Concurrent Regulatory Change.** It has been the consistent opinion of the manufacturers that the content of the AC be in the form of a document which is enforceable and that it be accompanied with a concurrent regulatory change to close the door once and for all on undocumented and unapproved parts by tightening and clarifying existing regulatory requirements. The recommendation to accomplish regulatory change, concurrent with publication of the AC, through the issuance of an SFAR, was rejected by vote of the WG on August 30, 1994.

The WG approved the recommendations to the FAA that were published with the September 9th draft of the AC. The Minority Opinion group objected to the approval of the recommendations due to the lack of a requirement for concurrent regulatory change. The basis for regulatory change is further described in Section 2 of this document.

Recommendation

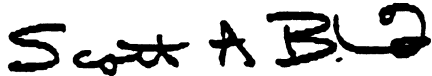
The signatories to this Minority Opinion recommend that the ARAC Aircraft Certification Procedures Issues Group:

1. Not accept the proposed final WG draft AC - PAAT Phase 3 dated 10/14/94. Instead, the ARAC Aircraft Certification Procedures Issues Group direct the PAAT 3 WG to:
 - a. Resolve the draft AC issues presented in Section 1 of the Minority Opinion and,
 - b. Direct the PAAT Phase 3 WG to comply with the tasking by the concurrent development of regulatory change material considering the concepts and objectives in Section 2 of the Minority Opinion.

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This document constitutes the Minority Opinion of the following Parts (PAAT 3) WG representatives:

Allison Engine Company:

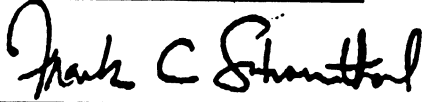


Scott A. Blind, Manager
Customer Support,
Washington Zone Office

Allied Signal Inc.:

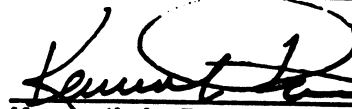

Earl Major, Director
Quality Assurance

Bell Helicopter TEXTRON:



Frank Schoenthal, Manager
Quality Systems Management

McDonnell Douglas Corporation:



Kenneth L. Peterson, General Manager
Technical & Government Affairs
Douglas Aircraft Company

Section 1

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The following are detailed discussions of the Minority Opinion's concerns regarding the draft AC.

1. Concept of "Existing Inventory"

There has been a continuing debate in the PAAT 3 WG concerning the concept of existing inventory. The tasking from the ARAC Issues Group and FAA instructed the WG to evaluate the acceptability of aircraft parts existing in present civil inventories. The manufacturers have interpreted this to mean that the retroactive approval of these parts was limited to parts that were presently held in an entities inventory, not parts that would be inducted in the future. Our intent from the beginning was to "build a dam and drain the swamp". The draft AC, in its present form, does neither. The WG has established a method to "drain the swamp", but there has been no provision for stopping the flow of undocumented parts into the system. Without a time constraint, (which would be established by defining what is meant by "existing inventory"), inventories of undocumented parts will continue to grow and the retroactive approval procedure established by this AC will exist forever, allowing undocumented and potentially unapproved parts to be found acceptable for use on certificated aircraft.

Allison and McDonnell Douglas presented a motion at the October 14, 1994 meeting to adopt a definition of "existing inventory". The motion was defeated by vote of the WG. The manufacturers proposed that the following definition be adopted:

"Existing Inventory--Aeronautical inventory that is in the entities possession, in transit, or on order at the time this AC is issued. Any parts received after the issuance of this AC shall not be eligible for consideration under this draft AC".

Our intent was to limit the scope of this draft AC to "present civil inventory" that is being held or is on order. The second sentence specifically prohibits induction of parts after the AC is issued. Implicit in the proper use of Sections 7 and 8 of the draft AC is the establishment of a receiving inspection process that would not allow undocumented parts to enter inventories. Without limiting the scope of the draft AC, the receiving inspection procedure remains open-ended and will simply identify undocumented parts as such (paragraph 7.a.5), and allow them to pass into inventory via the evaluation process in Section 8.

Present FAR's do not expressly require that parts be approved or documented when bought, sold, or transferred. Part 21 does not specifically require a manufacturer to provide documentation beyond shipping documents or invoices. Part 21.303 does specify that no person shall make a replacement part for a type certificated product without proper production approval from the FAA. Further, the definition of "undocumented" parts in the draft AC does nothing more than to exempt the majority of what we believe are "unapproved" parts from the requirements of establishing and documenting conformity to FAA approved type design data. This now places such parts in the same category of FAA approved parts without the necessity of expensive test and qualification. While many

1. Continued

of these parts may be acceptable, they should not be automatically excluded from FAR requirements just because an installer believes the parts are acceptable and is willing to sign a return to service tag.

It has been the manufacturers argument that this draft AC now establishes a new method to find those unapproved, undocumented parts acceptable for installation.

2. Inspection and Acceptance

The purpose of the draft AC is to establish guidance for ensuring that undocumented parts in existing inventory conform to FAA approved design data. To that end, the draft AC sets up a procedure by which "undocumented parts" as defined in the draft AC can be cleared for ultimate use in FAA certificated aircraft. However, part of the proposed definition of "undocumented parts", to wit: "(2) the part was previously determined to be airworthy by an appropriately rated certificate holder (including FAA designees)", defeats this very purpose and potentially removes a vast number of critical parts from the draft AC's coverage.

While "an appropriately rated certificate holder (including FAA designees)" can certainly make a visual examination of a part or otherwise determine that a part appears to comply with a maintenance manual, their expertise is significantly limited when it comes to making a conformity determination for critical parts of unknown origin. This is especially important when it comes to rotorcraft parts which may be highly susceptible to failure in contrast to those of a fixed wing aircraft unless conformity is assured. Further, a visual examination or comparison to a maintenance manual or undefined industry or other standards, both in the case of parts which have a major and catastrophic impact on a product, will not disclose material defects or other nonconformances to the type design. Manufacturers maintenance manuals are directed toward determining wear and are specifically excluded from use for making conformity determinations by FAA Order 8130.2C.

The parts approval process described in the draft AC should have inspection and tests commensurate with the importance of the part to the aircraft. The current draft separates parts into categories of catastrophic, major and minor via an intended use analysis. While this may have initially been a valid concept, this concept has now been so watered down along with the enormous loophole created by the way in which the draft AC defines "undocumented parts", as noted above, that the intended use analysis no longer satisfies the purpose of the draft AC of ensuring conformity. Parts in the minor category can now be accepted by a visual comparison to a known good part; parts in the major category may be accepted using criteria from maintenance manuals; and catastrophic-type parts may be accepted by FAA-approved inspection and tests to some undefined criteria. We must return to the basic premise that to be airworthy, parts must conform to the FAA-approved type design data and be in a condition for safe operation.

2. continued

The Charter of the WG and the purpose of the AC can be fulfilled when individuals with the appropriate engineering expertise; review the materials, processes, specifications and FAA-approved type design data used to produce the parts and the FAA (or designee) documents the conformity of such parts prior to installation. A simple signing of a return to service tag, as many have been done in the past, will not solve the problem of undocumented and hence, unapproved parts.

3. Commercial Parts and Manufacturers Standard Parts

The issue of "commercial parts" has been discussed in several ARAC WG's and Industry panels for several years. These parts are usually considered to be the "non-essential" hardware (such as curtain tiebacks, smoke alarms, light bulbs, etc.) that are used on an aircraft, but are not specifically designed or manufactured for aircraft. The intent is to define a class of parts that would be exempted from Part 21.303, and not require production approvals. There have been attempts to expand this definition to include a lot of other parts (electrical switches, circuit breakers, etc.) that are aircraft parts that should require production approvals. Several of the companies that have been selling parts without direct-ship authority or a PMA have been trying to have their products defined as commercial parts so that they do not have to apply for PMA's. The FAA has initiated enforcement actions against several of these suppliers.

The Production Certification and Parts Manufacturing WG's have been trying to address the lack of regulatory basis for these parts by revising Part 21 to define them and exempt them from PMA requirements.

The issue within the PAAT3 WG is that there is not a regulatory basis for commercial parts, and hence, there is no basis for their inclusion in an AC. Further, some members of the WG faced similar enforcement problems with the FAA and have tried to expand the definition of standard parts without the required regulatory changes to include "Manufacturers Standard Parts" within the exclusion provisions of the AC. This would thereby exempt these from PMA requirements or at least cause a significant barrier for future FAA enforcement.

Since the WG was informed that the FAA policy-level reviewers would not accept the term "commercial parts" in the draft AC, the WG chose to retain the concept of commercial parts and grant them an exemption from evaluation, without labeling them as such. This is a superficial attempt to include commercial parts and manufacturers standard parts in the draft AC that, it is hoped, will not survive FAA review.

The manufacturers objected to the option chosen by the WG because of the lack of regulatory basis, and for the placement of these parts in the evaluation process. These parts have been listed in Section 8.a.(1)(C), which grants them exemption from the evaluation process along with standard and owner/operator produced parts. Further, Item (vi) which states "[the part]

3. continued

does not affect the airworthiness of the product" requires a determination that, in some cases, may seem obvious (i.e. a curtain tieback, light bulb, etc.), but in others, clearly is not (i.e. a bearing). Again, this interpretation should be made by an individual acceptable to the FAA as part of the "written plan" which would require FAA acceptance. The Minority Opinion was that if these parts were to be defined and exempted, it should be done as part of the intended use analysis, Section 8.a.(5)(C)(1), which would have someone acceptable to the FAA evaluate them and classify them as minor category parts and clear them through the evaluation process and document them as conforming parts. This position was not accepted by the WG.

4. Documentation

The draft AC does not require documentation of the conformity determination on an FAA Form 8130-3 unless the part is offered for sale or transfer. An undocumented part can therefore be installed on an aircraft without the conformity determination being documented on the required FAA form. This concern can be expanded on a global basis with parts being manufactured overseas with little or no FAA oversight. Such parts would be inducted into inventories retroactively approved by the provisions of this draft AC. While the draft AC does have a general statement that the conformity determination should be documented, we are concerned that a "laundry" type environment will be fostered whereby parts will be "installed" by a repair station as part of a return to service to avoid the requirements to document conformity on an FAA Form 8130-3. We believe the term "airworthy" to most installers fall within those determinations made when a product is returned to service and not any engineering determination required when dealing with undocumented and unapproved parts even if the origin can be eventually determined. Again, as stated above, generally people working in a repair station or maintenance environment do not have the engineering expertise or access to the FAA approved type design data to make a proper conformity determination nor are they authorized by the FAA to make such a determination. Other than in a large airline where engineering expertise exists, they will simply make a visual examination of the part, compare it to the requirements of the maintenance manual and perhaps do a dimensional check before returning a product to service. This is far short of a conformity determination on an FAA Form 8130-3.

5. Military Surplus Parts

The manufacturers have tried on several occasions to have military surplus parts expressly excluded from this draft AC with no success. The current wording was arrived at via compromise, as there is no intent on the manufacturers part to restrict the Experimental Aircraft Association (EAA) and other warbird collectors or operators from using parts for military aircraft. Our intent was to restrict the use of military surplus parts, especially breakout parts that were produced by non-FAA approved sources, from being used on type certificated products. Breakout parts are produced contrary to FAR Part 21.303 and should not be used on type certificated products. The Minority Opinion strongly recommends that military surplus parts be excluded from coverage of the AC.

6. Concurrent Regulatory Change

An AC is only advisory/guidance material and will tend to set up a defensive mechanism behind which one can hide rather than to allow for enforcement actions against manufacturers, installers, operators, etc. who choose to violate the applicable parts of the FAR. Thus, regulatory change must accompany this AC.

Task Team B was formed to evaluate and recommend proposed regulatory changes that compliment the draft AC. Members included manufacturers and operators (major airlines). At the August 29-30, 1994 meeting, the task team recommended that the FAA revise FAR Parts 21 and 43 to require that parts be approved, or otherwise within the provisions of FAR Part 21, and properly documented to be produced, bought, sold, transferred, or installed on a type certificated product. These regulatory changes were recommended to be accomplished concurrent with the publishing of the AC via an SFAR. The Task Team's recommendations were, for the most part, rejected by vote of the WG at the August 30, 1994 meeting.

The WG drafted alternate recommendations to forward to the FAA along with the draft AC. These recommendations essentially called for the FAA to begin to enforce Part 21.303, to adopt a policy to certificate distributors and suppliers, establish a means for documenting the regulatory status of parts and assemblies, and adopt a definition of "commercial parts". They did not call for concurrent regulatory change, nor did they propose a process to ensure that future parts are approved, or otherwise within the requirements of FAR Part 21, and documented, other than calling on the FAA to vigorously enforce Part 21.303. The point could be made that if the FAA had been enforcing Part 21.303 all along, then there would not be an unapproved or undocumented parts problem.

With respect to the draft AC, Section 7 is intended to provide guidance to the reader on a system that will help "build the dam". However, since there is no expiration date on the draft AC, the "existing inventory" of undocumented parts will continue to grow and because it is guidance, not regulation, and thus not enforceable, we find the draft AC alone insufficient to "build the dam". We strongly believe that concurrent regulatory changes are required in order to achieve that end. We recognize current regulations exist to regulate parts manufacture, yet we feel they are not strong enough and that their use and installation needs to be better regulated. Simple changes to FAR 21 and 43 will achieve this result. We would strongly recommend regulatory changes be pursued concurrently with this AC and that the AC not be implemented until the FAA agrees to pursue such changes. To that end, Section 2 of this Minority Opinion provides a proposal for regulatory change.

Section 2

The following is a proposal for regulatory revision. While the detailed wording and rationale would require WG development, the objective need for such change is well endorsed by this Minority Opinion.

To ensure the future integrity of the FAA's continuing airworthiness priority with respect to replacement parts, FAR 21.303 and 43.13 require revision based on two fundamental objectives:

1. FAR 21.303 requires revision to establish better defined criteria for the control of replacement parts for installation on aerospace products and,
2. FAR 43.13 requires revision to identify a criteria sufficient for the installer of a part to use in order to identify if the part is airworthy (i.e. has been properly produced, conforms to an approved type design and is approved, or otherwise within the requirements of FAR Part 21).

Since the end user/owner is ultimately responsible for ensuring that the aircraft is airworthy (FAR 91.163), it is reasonable that the installer of parts will wish to limit exposure to possible FAA enforcement and request that all parts received have the proper documentation. Further, it is also realistic to expect that the operator wants the installer to use only those replacement parts and material which will leave his airworthiness certificate intact. It is expected that this method will be more successful than any scheme that simply places more burden of proof on the installer of the part. When it comes to the proper conformity of the part, there is no way anyone but the manufacturer or the production approval holder can really substantiate its true conformance with approved type design data. Once the installers begin to ask for the proper paperwork, the system will begin to deliver parts with it. That forces the responsibility for the determination of the approval status and eligibility for installation back to the source where it can more easily be made.